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10/584,406

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Claudiu Vasilescu

1200.758

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7590 08/12/2009  
Beranato, White & Stavish  
6550 Rock Spring Drive  
Suite 240  
Bethesda, MD 20817

EXAMINER

ANDREWS, MICHAEL

ART UNIT

PAPER NUMBER

2834

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/584,406 | <b>Applicant(s)</b><br>VASILESCU, CLAUDIU |  |
|                              | <b>Examiner</b><br>MICHAEL ANDREWS   | <b>Art Unit</b><br>2834                   |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/20/2008</u>  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office Action is responsive to the Applicant's communication filed June 26, 2006. In virtue of this communication, claims 1-18 are pending in the instant application.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Drawing Objections***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 6 recite the limitation "the solid part" in line 2 and line 1, respectively. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 8-10, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Harris et al. (US 5,793,143), hereinafter referred to as "Harris".

With regard to claim 1, Harris discloses a rotor assembly [10] (see col. 2, lines 8-14; and figure 1 for all numerical references unless otherwise stated) mounted to rotate around an axis of rotation (dashed line through the center of figure 1) and comprising two magnet wheels [12, 14] with claws [20, 22] separated by an axial spacing and arranged opposite each other (see col. 2, lines 14-19), each wheel [12, 14] comprising an end shield [32] substantially perpendicular to the axis (see figure 2B and col. 2, lines 30-35) and the claws [20, 22] extending axially from the end shield [32] towards the other wheel [12, 14], the end shield [32] of one of the magnet wheels [12, 14] comprising an axial face opposite the other wheel [12, 14] while the claws [20, 22] of

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one wheel [12, 14] are attached to the end shield [32] by respective bases mutually separated by peripheral spaces, the assembly [10] comprising at least partly a fan [24, 28] (see col. 2, lines 20-24) positioned on the axial face of the end shield of one of the wheels [12, 14] opposite the other wheel (see figure 1), characterised in that part of this fan [24, 28] axially seals at least partly one of the peripheral spaces (The sealing parts [36, 50] are described in col. 2, lines 47-51 and col. 3, lines 15-20).

With regard to claim 2, Harris discloses the rotor assembly according to claim 1, as stated above, characterised in that the fan [24, 28] comprises a plate approximately perpendicular to the axis (the flat bases of the fans are clearly shown in figure 1) and attached to the end shield (the assembled rotor assembly is clearly shown in figure 5), and blades [40] protruding from the plate (see col. 2, line 56), and in that a so-called sealing part [36, 50] of the plate comes to seal axially at least one of the peripheral spaces (see col. 2, lines 47-51 and col. 3, lines 15-20).

With regard to claim 3, Harris discloses the rotor assembly according to claim 2, as stated above, characterised in that said sealing part [36, 50] is axially inclined from the solid part of the plate at the side of the claws [20, 22] (The claws extend in the axial direction, which is inclined from the radial direction of the plate.).

With regard to claim 4, Harris discloses the rotor assembly according to claim 3, as stated above, characterised in that said sealing part [36, 50] of the plate carries an axial relief (the sealing parts extend in the axial direction, as shown in the figures) extended from the plate between the claws (see col. 2, lines 47-51).

With regard to claim 5, Harris discloses the rotor assembly according to claim 4, as stated above, characterised in that the axial relief [36, 50] is shaped so as to serve as a fixing clip for the fan [24, 28] on the corresponding magnet wheel [12, 14] (see col. 2, line 51; The interference fit described allows the axial reliefs, or sealing parts, to fix the fan to the magnet wheels.).

With regard to claim 8, Harris discloses the rotor assembly according to claim 2, as stated above, characterised in that the plate of the fan [24, 28] comprises a solid part of approximately annular form (the plate is shown as a solid round piece, in figure 1) and in that a zone of the solid part constitutes the sealing part [36, 50].

With regard to claim 9, Harris discloses the rotor assembly according to claim 8, as stated above, characterised in that the claws [20, 22] have radially outer faces defining the diameter of the rotor assembly (best seen in figure 2A), the solid part having an external diameter equal to or less than the diameter of the rotor assembly (see figure 5; the diameter of the fans are clearly shown being slightly smaller than the rotor).

With regard to claim 10, Harris discloses the rotor assembly according to claim 2, as stated above, characterised in that the plate of the fan [24, 28] comprises a solid part of approximately annular form (the plate is shown as a solid round piece, in figure 1) and in that the sealing part [36, 50] of the plate protrudes radially towards the outside from the solid part (see figure 3A; each sealing part extends a short distance in the radial direction).

With regard to claim 18, Harris discloses an alternator or alternator-starter for an automobile vehicle (see col. 1, lines 9-15), comprising a rotor assembly according to claim 1, as stated above.

7. Claims 1, 2, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Vasilescu et al. (US 2003/0030334 A1), hereinafter referred to as "Vasilescu".

With regard to claim 1, Vasilescu discloses a rotor assembly [42] (see figures 2 and 7) mounted to rotate around an axis of rotation X-X' (see [0051], lines 1-2) and comprising two magnet wheels (two halves of the rotor core are clearly shown in the figures) with claws [44] separated by an axial spacing and arranged opposite each other (see [0051], lines 3-6), each wheel comprising a end shield substantially perpendicular to the axis (the flat end of the first wheel is clearly shown in figure 2, within the fan) and the claws [44] extending axially from the end shield towards the other wheel (also clearly shown in the figures), the end shield of one of the magnet wheels comprising an axial face opposite the other wheel while the claws of one wheel are attached to the end shield by respective bases mutually separated by peripheral spaces [46] (see [0051], lines 4-5), the assembly comprising at least partly a fan [48] positioned on the axial face of the end shield of one of the wheels opposite the other wheel (see [0052], lines 1-7), characterised in that part of this fan [48] axially seals at least partly one of the peripheral spaces (The lower half [71] of each fan blade extends into the peripheral spaces [46], partially sealing them.).

With regard to claim 2, Vasilescu discloses the rotor assembly according to claim 1, as stated above, characterised in that the fan [48] comprises a plate (This is the part that reference numeral [48] is pointing to.) approximately perpendicular to the axis and attached to the end shield (clearly shown in the figures), and blades [70] protruding from the plate (see [0053], lines 1-5), and in that a so-called sealing part [71] of the plate comes to seal axially at least one of the peripheral spaces (The lower half [71] of each fan blade extends into the peripheral spaces [46], partially sealing them.).

With regard to claim 13, Vasilescu discloses the rotor assembly according to claim 2, as stated above, characterised in that the fan [48] is made of folded sheet metal (see [0009], lines 1-5; this process is described for the conventional fan, it is implied that the same process is used in the invention of Vasilescu) and in that the plate of the fan [48] comprises support parts for the blades [70] cut out of the periphery of the plate (see [0009], lines 1-5; the blades, of which the support is a part, can be formed by cutting and folding the outer edge of the plate of the fan.), one of the support parts constituting the sealing part [71] (see figures 2 and 7).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



9. Claims 6-7, 11-12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris.

With regard to claim 6, Harris discloses the rotor assembly according to claim 4, as stated above, except that Harris does not expressly disclose that the solid part (see figure 3B) has a radially outer edge in which is hollowed out at least one recessed zone, the sealing part [36, 50] extending from a base of the recessed zone.

However, it would have been obvious to one of ordinary skill in the art to cut out a recessed portion at the base of each sealing part since it has been held that a mere change in shape of a particular component of a device is a matter of design choice involving only routine skill in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

With regard to claim 7, Harris discloses the rotor assembly according to claim 6, as stated above, characterised in that the fan [24, 28] is molded (see col. 2, lines 40-42) and comprises a blade (see figure 1) extending at least partly over the sealing part [36, 50] (Several of the blades are clearly shown in figure 1 occupying the same axial space as the sealing parts opposite them.).

With regard to claim 11, Harris discloses the rotor assembly according to claim 10, as stated above, characterised in that the sealing part [36, 50] of the plate comprises a tab protruding radially towards the outside from the solid part of the plate of the fan [24, 28] (see figure 3A; each sealing part extends a short distance in the radial

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direction). Harris does not expressly disclose that the fan [24, 28] is made of folded sheet metal.

However, one of ordinary skill in the art would have known that folded sheet metal is well known for its strength and ability to be molded into complex shapes, desirable in rotating machines. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use polyimide for the encapsulation material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With regard to claim 12, Harris discloses the assembly according to claim 11, as stated above, characterised in that the tab [36, 50] is inclined axially from the solid part at the side of the claws [20, 22] (see figure 3A; each sealing part extends a short distance in the radial direction).

With regard to claim 14, Harris discloses the rotor assembly according to claim 2, as stated above, characterised in that the fan [24, 28] comprises a second plate [26, 30] positioned on the plate and bearing the blades (see col. 2, lines 22-24 and col. 4, lines 10-23). Harris does not expressly disclose that the fan [24, 28] is made of folded sheet metal.

However, one of ordinary skill in the art would have known that folded sheet metal is well known for its strength and ability to be molded into complex shapes, desirable in rotating machines. Thus, it would have been obvious to one of ordinary skill

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in the art at the time the invention was made to use polyimide for the encapsulation material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With regard to claim 15, Harris discloses 15. Rotor assembly according to claim 14, as stated above, characterised in that one of the plate and second plate [26, 30] comprise at least one sealing part [36, 50] (the sealing parts are attached to the "plate" of the fans [24, 28], as shown in figure 1).

With regard to claim 16, Harris discloses the rotor assembly according to claim 15, as stated above, characterised in that the plate is positioned on the axial face [32] of the end shield of the magnet wheel [12, 14] (see figure 2B), the second plate [26, 30] being positioned on one side of the plate opposite said axial face (the second plates are on the outside of the fans, while the axial face of the rotor are located inside of them, in the axial direction).

With regard to claim 17, Harris discloses the rotor assembly according to claim 14, as stated above, characterised in that the second plate [26, 30] is attached to the axial face [32] of the end shield of the magnet wheel [12, 14] (the second plates are attached to the blades of the fan, indirectly attaching them to the ends of the rotor), the plate being positioned on one side of the second plate [26, 30] opposite said axial face [32] (the second plates are on the outside of the fans, while the axial face of the rotor are located inside of them, in the axial direction).

***Citation of Relevant Prior Art***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art:

- Buening et al. (US 6,781,262 B2) discloses a claw-pole rotor for a generator having a fan with sealing parts between the claw-poles;
- Armiroli et al. (US 6,369,486 B1) discloses an alternator with sealing parts extending between the claw-poles of the rotor.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Andrews whose telephone number is (571)270-7554. The examiner can normally be reached on Monday through Thursday between the hours of 8:30 and 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached at (571)272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/  
Supervisory Patent Examiner, Art Unit 2834

/M. A./  
Examiner, Art Unit 2834